

**POWERFUL STATE-MENT: A record-breaking 2,984 bike-riders and 1,635 walkers from 35 states participated in the 2009 Prouty Bike Ride and Walk—bringing in donations from every single state and raising over \$2 million for Dartmouth's Norris Cotton Cancer Center.**



dren and adults access dental care; and offer numerous services for senior citizens. Many additional free programs are also readily available, from childbirth classes to support groups for cancer patients. In 2008, Cheshire spent \$1.4 million on community health programs.

Cheshire is putting a lot of emphasis on tobacco cessation and school-based smoking-prevention efforts. Here, too, there are deep roots. Keene was the first city in New Hampshire to mandate smoke-free restaurants, well before a statewide law went into effect. And recommendations from Cheshire were influential in Keene State College's decision to ban the sale of tobacco in campus stores, according to Schlegelmilch.

**Measure:** While it's clear there is no lack of action, it's not evident what impact the efforts are having so far. Fifteen indicators have been identified to measure Vision 2020's progress. They have to do with whether people have access to information and services, and whether they are able to achieve and maintain healthy lifestyles. The indicators were selected in year two, says Nichols, "so we are just reaching the point where we can . . . measure change over time." But Schlegelmilch and Nichols are optimistic that the infrastructure they're putting in place will have a long-term effect.

"What we're trying to do here is change culture," says Schlegelmilch. "Vision 2020 is not a program," adds Nichols. "It's a way of life."

REBECCA E. GLOVER

## Medical student takes a detour, on two wheels

A year ago, Benjamin Grass was "excited" but "a bit nervous" about entering DMS. But soon he'd settled into studying anatomy and biochemistry.

**Tumor:** Until January 27, that is, when he was diagnosed at DHMC with testicular cancer. He had surgery the next day to remove the tumor, followed a month later by another operation to see if the cancer had spread; happily, it hadn't. Grass's treatment and recuperation went well, though he had to set aside his medical studies.

Now, however, after several fortuitous encounters, he's ready to hit the books again. The first fortuity came the day of his diagnosis. The resident who cared for him in the ER was Dr. E. Paul DeKoning, a DMS '04 who was

diagnosed with lymphoma during his first year at DMS; Grass has good things to say about all his caregivers, but DeKoning's support was especially reassuring on that difficult day.

The second fortuity came when Grass crossed paths with Dr. Susanne Tanski, a pediatrician and researcher at Dartmouth's Norris Cotton Cancer Center; upon learning about Grass's situation, she hired him to work, until he was able to return to school, on two anti-smoking projects she oversees.

**Bike:** The third fortuity relates to his longtime love of biking. Grass was a four-year member of the cycling team in college, at Williams, so when he realized that he had just enough time to get back in shape for the 2009

**He had just enough time to get back in shape for the 2009 Prouty.**



**DMS student (and cancer patient) Ben Grass, right, completed 100 miles in this year's Prouty, with some college friends.**

Prouty Century Bike Ride on July 11, he signed up; the Prouty raises over \$2 million a year for Norris Cotton—a cause that Grass is more than happy to support.

He completed the Prouty's 100-mile course feeling strong. And excited to get back to med school in a few months.

## THEN & NOW

**A reminder of the pace of change, and of timeless truths, from the 1980 DMS admissions viewbook:**

"In response to the nation's need for primary-care physicians, increasing numbers of recent graduates of DMS and other medical schools have been entering residency programs in the fields of medicine, family practice, and pediatrics. Since 1973, 188 of the Medical School's 288 M.D. recipients (65%) have entered primary-care programs: 125 in medicine, 34 in family practice, 29 in pediatrics."



**63**

Number of DMS M.D. recipients in 2009

**17**

Number who entered primary-care residencies

**27%**

Percentage who entered primary-care residencies



**ON THE JOB:** Dr. Robert Drake, a DMS psychiatrist, says the U.S. could save \$368 million a year by instituting a program to help mentally ill people who have Social Security disability coverage find and hold down jobs, using a supported-employment model pioneered at Dartmouth.

THEN & NOW

A reminder of the pace of change, and of timeless truths, from *The Journal of William Tully: Medical Student at Dartmouth 1808-1809*:

Tully, who entered DMS 11 years after it was founded by Dr. Nathan Smith, recorded the fact that on September 27, 1808, he and some other medical students “conversed of a visit to Dr. Smith’s laboratory that we had made the last night. This room is only two of the Collegiate rooms, converted into one by removing a partition. . . . [It contains] a large and long table, upon which the Doctor performs all his chemical experiments, and I suppose makes his dissections.”



**5,900**

Square feet of teaching lab space at DMS in 2009

**>268**

Number of individual DMS research labs in 2009

**To grandmother’s house we go, on film**

There is something to be said for being in the right place at the right time. It was serendipity that Dr. Richard Waddell met a woman named Jann Mitchell over breakfast at a hotel in Tanzania. As a result of that meeting, he became the executive producer of an award-winning documentary.

**Shown:** *Grandmother to Grandmother: New York to Tanzania* premiered at Dartmouth in April and has since been shown all over the U.S., including at the Global Health Council’s annual meeting in Washington, D.C. It also won a CINE Golden Eagle Award and has been accepted to the United Nations Association Film Festival.

Waddell, director of HIV research and a member of the faculty at DMS, was in that hotel in Tanzania because he helps coordinate the DarDar Health Project. Started in 2000 as a study of tuberculosis (TB) in Tanzanians with HIV, the project has snowballed to include free adult and pediatric clinics in Dar es Salaam, the country’s capital; an elective for DMS students; and a prestigious fellowship for Tanzanians underwritten by the National Institutes of Health’s Fogarty International Center. And, thanks to a collaboration with Dartmouth’s Dickey Center for International Understanding, undergraduates can travel to Tanzania for various DarDar-related internships.

**Tanzania:** Jann Mitchell was in Tanzania because her husband, a Swedish physician, was running

clinical trials there and she was visiting a school she had helped to found.

The Bibi Jann School—*bibi* means “grandmother” in Swahili—was built for children who’d lost their parents to HIV/AIDS and so were being raised by their grandmothers. When Mitchell took Waddell to visit the school, he was “just completely blown away,” he remembers. Having recently met Anne Macksoud and John Ankele of Old Dog Documentaries, Waddell immediately thought “Oh! This is a perfect film!” Mitchell agreed.

**Care:** In the six months that it took to raise the funds to make the documentary, DMS opened a pediatric clinic in Dar es Salaam for children infected with HIV. As a part of DarDar’s outreach program, Waddell and his team decided to offer free care to children infected with HIV at the Bibi Jann School and its affiliated orphanage.

The documentary, which exposes the difficulties grandmothers face raising their grandchildren—not just in Tanzania but also in the U.S.—is divid-

ed into three parts. The first part profiles 25 grandmothers and their grandchildren connected with the Bibi Jann School. The second part focuses on an apartment building in the Bronx designed specifically for grandparents who are also raising their grandchildren. Some of these children have lost their parents to AIDS, but most to drugs, al-

BEN ROBBINS



**This Tanzanian grandmother and grandson are among those in a documentary produced by a DMS faculty member.**

cohol, gang violence, or prison. In the film’s final part, two sets of grandparents and grandchildren from the Bronx travel to Bibi Jann to meet their counterparts and exchange stories of hardship and success.

The Tanzanian program includes support for the grandmothers. They are given help with food and housing and are taught how to create and

market African wares, such as mats and batiks, with the goal of becoming financially self-sufficient. Meanwhile, the children receive free education and child care at the Bibi Jann School.

**Pupils:** The school has about 90 pupils, 30 of whom are orphans. One grandmother says she now “can walk like a grandmother,” with pride and dignity,

**NEWS TO USE:** Dartmouth research on health-care utilization, including from *The Dartmouth Atlas of Health Care*, was quoted during the first six months of 2009 in 200 unique media outlets which reached 117 million consumers of news.



THEN & NOW

**A reminder of the pace of change, and of timeless truths, from the 1984 Mary Hitchcock Memorial Hospital Annual Review:**

“In the summer of 1982, [high school football player] Alan [Brown] injured his knee during football training, [tearing the] fibrocartilaginous cushion of the knee called the meniscus. . . . Prior to 1980, Alan’s injury would have required a three-to five-day hospital stay [and] a total recuperation time of eight to ten weeks.” But thanks to an arthroscopic procedure performed by Hitchcock orthopaedist Dr. Robert Porter, “Alan was able to go home the same day and, best of all, was back on the football field within three weeks,” stated Porter.”



3

Number of weeks following knee arthroscopy after which it’s usually possible to resume sports today

**Stanching the hemorrhage of health-care data**

If you’re like most people, you’re much more concerned about protecting your credit card number than your health-insurance number. But health-care information is increasingly being exploited by ill-intentioned individuals, says M. Eric Johnson, a professor at Dartmouth’s Tuck School of Business who studies what is known as medical identity theft.

**Motives:** The motives behind medical identity theft vary. Uninsured individuals may try to receive free health services; illegal immigrants may want to avoid being deported; criminals on the run may be evading the law. Between 1998 and 2006, the Federal Trade Commission received 19,000 complaints of medical identity theft—a number that’s “the tip of the iceberg,” says Johnson.

In a recent paper on the problem, he wrote that “hospital employees historically comprise the largest known group of individuals involved in traditional medical fraud.” Yet patients can unwittingly foster fraud by, for example, scanning health-care paperwork and storing it on an unsecured computer.

But Johnson, who directs the Center for Digital Strategies at Tuck, believes that digitizing medical records is part of the solution rather than part of the problem. In fact, he and several other Dartmouth faculty members—including Dr. Andrew Gettinger, head of informatics for DHMC—just received a \$3-million grant from the National

Science Foundation to develop secure computing systems for the health-care industry.

**Peer:** Johnson’s research places the blame for medical data hemorrhages on antiquated information technology (IT) in doctors’ offices and hospitals, as well as on peer-to-peer (P2P) file-sharing client software—programs used to share music.

Health-care workers often have easy access to confidential employee and patient information when such data is stored in insecure formats like Microsoft Word or Excel. These formats can easily be e-mailed, uploaded, or otherwise transported out of a health-care facility, usually with no way of identifying the culprit, let alone that data has been compromised.

Johnson also examined how P2P software facilitates medical identity theft. For example, a malicious P2P client may ask for access to a user’s entire “My Documents” folder if just one music file is stored there. Or a client may just automatically access a user’s entire hard drive, without even asking permission.

**Footprint:** In his study, which Johnson presented at the 2009 international Financial Cryptography and Data Security conference, he explained how easy it is to mine personal health information via P2P file-sharing software. First, he created an electronic “footprint,” a set of search terms that lead back to an original query, for each of the top 10

publicly traded health-care firms. Pulling randomized samples over two weeks, he recovered 3,328 documents from P2P networks, 5% of which “could be used to commit medical or financial identity theft.” These documents included health plan information, examination records, medical and psychiatric histories, and other sensitive data.

Then, by employing more specific searches, Johnson gained access to even more compromising data, including one file containing Social Security numbers, dates of birth, and insurer information for 9,000 patients.

One hospital system inadvertently leaked a spreadsheet with 82 pieces of information on each of 20,000 patients.

While no secure system is perfect, many large hospitals—including DHMC—use an electronic medical record (EMR)

**In his study, Johnson gained access to lots of compromising health data.**

DAVE BRADLEY



**Johnson studies medical identity theft.**



JON GILBERT FOX

**An unexplained cluster of ALS cases around scenic Mascoma Lake generated a flurry of press coverage this summer.**

medications used to treat ALS. So far, Caller, Stommel, and their collaborators have not found BMAA in any of the algae they've tested from New Hampshire lakes, including Mascoma. But that doesn't mean BMAA is never present. "It seems like most species that we test can make the toxin," says Caller, "but they don't always. We don't know if there is something that has to trigger it."

**Paper:** A scientific paper detailing what the researchers have found—or not found—is due to be published this fall, but there's still a lot more work to be done before a link between blue-green algae and the ALS clusters can be confirmed.

Based on what's known now, Stommel told the local paper, the *Valley News*, "I don't think there's any cause for alarm."

JENNIFER DURGIN

## THEN & NOW

**A reminder of the pace of change, and of timeless truths, from the Spring 1994 *Dartmouth Medicine*:**

DMS's Dr. C. Everett Koop said of the Clinton administration's health-care reform proposal: "I think the plan is up for grabs. There are 925 lobbies that will make themselves really felt. . . . This is the time for democracy to go into play. If the public gets mad enough . . . to bring pressure on Congress, you're going to see some changes made. I am disappointed in people who say there is no health-care crisis. There is a health-care crisis."



**75 million**

Number of U.S. adults aged 19-64 who were under or uninsured in 2007

**19th**

Rank of the U.S. in health outcomes among 19 leading nations, according to a 2008 Commonwealth Foundation study

**BAGGING PAPER:** Dartmouth Medical School was tapped by the Association of American Medical Colleges to take part in a pilot project to computerize the process by which medical students apply for electives at other schools—thus reducing paperwork.



## Worthy of note: Honors, awards, appointments, etc.

**Zbigniew Szczepiorkowski, M.D., Ph.D.**, an associate professor of pathology, was elected president of the American Society for Apheresis.

**Robert Zwolak, M.D., Ph.D.**, a professor of surgery and director of the Non-Invasive Vascular Laboratory at DHMC, was named president-elect of the Society for Vascular Surgery.

**Michael Sateia, M.D.**, a professor of psychiatry, was presented with the Nathaniel Kleitman Distinguished Service Award from the American Academy of Sleep Medicine.

**William Green, Ph.D.**, the dean of DMS and a professor of microbiology and immunology, was named the inaugural Elmer R. Pfefferkorn, Ph.D., Professor of Microbiology and Immunology.



The appointment recognizes Green's longtime contributions to DMS, both scientifically and administratively; before being named to the deanship, he was chair of microbiology and immunology and head of the Norris Cotton Cancer Center's Immunology and Cancer Immunotherapy Program. Pfefferkorn, whom the professorship honors, is a professor emeritus of microbiology and immunology and an internationally recognized parasitologist.

**Jose Conejo-Garcia, M.D., Ph.D.**, an assistant professor of microbiology and immunology, received the Ovarian Cancer Research Fund Liz Tilberis Scholar Award.

**David Goodman, M.D.**, a professor of pediatrics, was appointed to the Institute of Medicine Committee on the Future of Nursing.

**Joseph Henderson, M.D.**, a professor of community and family



medicine and the director of DMS's Interactive Media Laboratory, received the International Association of Forensic Nurses' Patron Award for an educational program he created titled "Sexual Assault: Forensic and Clinical Management—A Virtual Practicum."

**Ardis Olson, M.D.**, a professor of pediatrics, served as a member of the National Academy of Science's Committee on Depression, Parenting Practices, and the Health Development of Children.



The committee reported on a family-focused model of depression care.

**Frank McDougall**, vice president for government relations at DHMC, recently received the American Hospital Association's Grassroots Champion Award, in recognition of his "creative approach to bringing the legislative and health-care worlds closer together."



*continued on page 59*